Government of Alberta ■

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GAS ROYALTY OPERATIONS INFORMATION BULLETIN November 2010

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PLEASE ENSURE YOUR PRODUCTION ACCOUNTANTS RECEIVE A COPY OF THIS DOCUMENT

A. PRICING RATES AND TRANSPORTATION INFORMATION

For Pricing, Royalty Rates and Transportation Information for September 2010, refer to Attachments 1, 1A, 2, 2A and 3. These attachments are also available in Excel Format.

B. NOTICES

Office Closures – Christmas Period

All Alberta Energy offices will be closed from Friday, December 24 to Tuesday, December 28, 2010, inclusive. Our offices are also closed on Monday, January 3, 2011.

Gas and In-Stream Component (ISC) Reference Prices

In Information Letter 2010-24, the Department of Energy announced business process changes to the Gas and In-stream Component Reference Prices effective the January 2011 production month. These prices are used in the calculation of natural gas royalties. Attached are the business rules, which describe in more detail the calculation of the Gas Reference Price using purchase prices at the Alberta Market Hub on the Natural Gas Exchange (NGX). Also included in the business rules is a description of the intra-Alberta transportation deduction, which reflects consultation with industry.

For further information, please contact Bill Zanewick at 403-297-5465.

Transitional Royalty Rate Election

Transitional royalty rates can only be elected until December 31, 2010, and must be elected whether the well is producing or not. Well events that have elected transitional royalty can chose to 'opt out' only between January 1, 2011 and February 15, 2011 on the Petroleum Registry of Alberta.

C. MONTHLY INFORMATION

September 2010 Royalty Due December 31

- **Royalty clients are to remit the total amount payable shown on the December 2010 Statement of Account by December 31, 2010.** If the amount payable includes accrued current period interest, the interest has only been accrued to the statement issue date. Clients must also include the additional interest that has accrued from the statement issue date to the date of payment, using the per diem amount provided.

- **The December 2010 Statement of Account shows your amount payable as of the Statement issue date. It includes any outstanding balances from your previous statement, your September 2010 invoice amount and any applicable current period interest charges. It also identifies refunds resulting from overpayments.**

- Current period interest will not be charged on current invoice charges for the production month of September 2010 if it is paid in full by December 31, 2010.
- Current period interest will accrue on any overdue charges commencing the first day after the due-date until it is paid in full.

  Note: If the due date falls on a non-business day, the next business day will apply as the due date.

- Cheques are payable to the Minister of Finance, Province of Alberta.

October 2010 VA4 Due December 15

The VA4 forms for the production month of October 2010 are due in the department offices by December 15, 2010.

Note: If the due date falls on a non-business day, the next business day will apply as the due date for VA4 forms.

Registry Deadline Submissions

The Registry deadline submissions for SAF, OAF, and Volumetrics are posted in the Petroleum Registry of Alberta website "Reporting Calendars" under Calendars. Changes to this calendar will be posted on the Registry website home page in "Broadcast Messages."

Interest Rate November 2010

Alberta Energy's interest rate for November is 4.00%.

August Provisional Assessment Charge

The summary of Provisional Assessment Charges for all production periods in the August 2010 billing period was:

First Time Provisional Assessment	Reversals of Provisional Assessments	Net Provisional Assessment
$2,841,777.12	($530,500.79)	$2,311,276.33

August Penalty Charges

The penalty table below shows at the form level, the total penalty charges and reversals, for the August 2010 billing period:

FORM	Penalty Charges	Penalty Reversals	Net Penalty Charges for 2010/08
AC2	$60,900	($500)	$60,400
AC4 $0		$0	$0
AC5	$0	$0	$0
NGL1	$0	$0	$0
VA2	$0	$0	$0
VA3 $0		$0	$0
VA4 $100		$0	$100
Total	**$61,000**	**($500)**	**$60,500**

Gas Royalty Operations Support

Upon request, Gas Royalty Operations staff will be available to meet with clients who need assistance with royalty reporting. Royalty clients requiring assistance are encouraged to contact your respective Gas Royalty Client Services portfolio representative, as identified in Section F of this bulletin, to arrange a meeting.

Well Event Measured Depth Determination Letter

The department has issued a "Well Event Measured Depth Determination Letter" under the Report Package DOE – Gas to facility operators via the PRA on November 1 and 4, 2010. This letter shows the confirmed Measured Depth (MD) of each active well event that will be used to calculate the Depth Factor (DF) of the quantity component rate under the new royalty formula. A well event that is not listed on the letter and does not have a confirmed MD will receive a DF of 1. When the changes to the MD are confirmed by the department, a letter is issued to a facility operator who reports changes through the PRA to well event attributes affecting MD. All changes to the MD are applied on a go forward basis only. Facility operators are advised to submit well event attribute changes by the last day of the calendar month in order for timely determination of MD.

D. INFRASTRUCTURE DATA CHANGES

Client ID Listing

The BA Identifiers Report is a directory of Business Associate (BA) names, codes, status (e.g. struck, active, amalgamated, etc.), status effective dates, and effective August 2004,

includes Working Interest Owner (WIO) role start/end dates.
This report is also published daily on the Petroleum Registry website at:

http://www.petroleumregistry.gov.ab.ca

The department reminds Business Associates to review their WIO role to ensure that the start and end dates are reflected correctly. If the BA does not have an active WIO role, the operators cannot allocate volumes to the BA for the relevant production periods through the SAF/OAF allocations.

- If a BA has a WIO role, then that BA can receive SAF/OAF allocations from the WIO role start date forward.
- If a BA has a WIO role with an end date, then they can only receive SAF/OAF allocations from the WIO role start date until the end date. Any SAF/OAF allocations after the end date will be rejected.
- If a BA does not have a WIO role start date, then that BA cannot receive SAF/OAF allocations.

Please contact Client Registry at 780-422-1395, if you have any questions regarding the information supplied on this listing.

Client Status Changes

Clients must ensure that all royalty documents are completed using only valid client names and IDs. It is critical that royalty clients use current legal client names and their appropriate IDs on all documents to ensure accurate royalty calculation and to prevent provisional assessment and penalties. Rejects will occur when invalid IDs are used.

If you require information regarding client names or IDs, please contact Client Registry at 780-422-1395.

Nova Tolls - Multiple Gas Reference Prices

Royalty information related to the implementation of the Factor Model negotiated with industry for determining Multiple Gas Valuation Prices is provided on the Natural Gas

website's Royalty Related Information page under Facility Royalty Trigger Factors and Meter Station Ties.

E. REMINDERS

Gas and In-stream Component Reference Prices - Business Process Changes

In Information Letter 2010-24, the Department of Energy announced business process changes to the Gas and In-stream Component Reference Prices effective production month January 2011. In preparation for the new business processes in January 2011, the Department has increased the limit for including effects of prior period amendments in a Gas or In-stream component reference price from 2 per cent to 10 per cent, for the production months of August 2010 to December 2010. This change ensures that most effects of prior period amendments for the old period are included in reference prices calculated for the old period.

For further information, please contact Bill Zanewick at 403-297-5465.

User Defined File (UDF)/Comma Separated Values (CSV) Changes to the Crown Royalty Details Calculation Report

As part of the changes for the Competitiveness Review being implemented in March 2011, both the Natural Gas Deep Drilling Program (NGDDP) and New Well Royalty Rate (NWRR) can be applied in the same month for a given Crown Royalty Detail line. This change will impact the Crown Royalty Detail User Defined File (UDF) file, in that two Holiday adjustment (61) records could be created for a given Business Activity (51) record. This change does not contradict the current version of the UDF handbook, but may cause unexpected results for some clients.

There will be a new column added at the end of the Comma Separated Values file to indicate if the line relates to an NGDDP or NWRR royalty reduction.

For further information, please contact Mary Spearing at 780-422-9261.

Statutory Requirement and Recalculation of 2006 Royalty

A production year becomes statute barred on December 31st, four years after the end of a production year. Once a year has become statute barred, calculation or recalculation of royalty does not occur on a monthly basis. Section 38 of the *Mines and Minerals Act* provides for recalculation of royalty that can be initiated in two ways:

1. On the department's initiative in conjunction with an audit or examination; or
2. At the request of a royalty payer.

Audits in Progress

Non-operator partners are advised that certain 2006 allowable costs, custom processing fees, capital costs and custom processing adjustment factor, and reporting discrepancy audits are currently in progress. It is anticipated that these audits may be completed before December 31, 2010. However, should circumstances require that these audits be completed in 2011, a list of the affected Energy Resources Conservation Board facilities will be included in the December 2010 Information Bulletin. Royalty clients are also reminded that amendments received by the Department in the fourth year following the production year may be subject to audit. If the amendments are received late in the fourth year and insufficient time is available for the Department to commence a review of the amendments prior to the end of the year, the Department reserves the right to commence the audit at the beginning of the fifth year.

If you have any questions, please contact Kris Pretty of the Compliance & Assurance group at 403 297-8785.

Industry Recalculation of 2006 Royalty

Industry initiated royalty recalculation requests for the 2006 production year must be submitted in writing to the attention of Wayne Taljit, Manager of Gas Royalty Client Services. This request must be received by the Department on, or before, December 31, 2010, and it must include the following:

- Identification of the recalculation facility or facilities;
- The reason for the recalculation;
- An order of magnitude estimate, i.e. the approximate amount of the royalty impact;
- Identification of the royalty clients that may be impacted by the request;
- The time lines for recalculation preparation and submission to the Crown including a reasonable time for the Crown to review the submission; and
- Confirmation that the affected partner(s) have been notified.

If you have any questions regarding this process, please contact your Gas Royalty Client Services portfolio representative as identified in Section F of this bulletin.

F. POINTS OF CONTACT

Petroleum Registry of Alberta

The Petroleum Registry of Alberta Service Desk is the focal point for communications with the Registry regarding preparations for, access to, or utilization of the Registry.
To contact the Petroleum Registry of Alberta Service Desk:
Phone: 403-297-6111 or 1-800-992-1144
Fax: 403-297-3665
Email: petroleumregistry.energy@gov.ab.ca

Alberta Energy Internet

Prices, Royalty Rates and Transportation Information are available on the Alberta Energy Internet address: www.energy.alberta.ca, from "Our Business", navigate to "Natural Gas", "About Natural Gas", "Prices", "Alberta Natural Gas Reference Price (ARP)".

In addition, both the Gas Royalty Information Bulletins and Information Letters are also available under "Our Business", navigate to "Natural Gas", "Legislation, Guidelines & Policies".

Gas Royalty Client Services

Gas Royalty Client Services is structured as a Business Associate client portfolio system, which assigns a given Business Associate to one of four Client Services teams. Listed below is the portfolio breakdown along with Client Services Team Leads and phone numbers. The portfolios are divided by company name and not by BA ID.

Example: If your company name is the "Gas Company" you would call C – G team at 780-644-1202.

Business Associate	Phone Number / Email Address	Team Lead
Numbered companies, A, B & L	780-644-1201 GRCST1@gov.ab.ca	Todd Atwood
C – G	780-644-1202 GRCST2@gov.ab.ca	Lily Hiew
H – P (excluding L)	780-644-1203 GRCST3@gov.ab.ca	Chris Nixon
Q – Z	780-644-1204 GRCST4@gov.ab.ca	Jyoti Bhambhani

Gas Royalty Reception: 780-422-8727
Fax: 780-427-3334 or 780-422-8732
Alberta Toll Free: 780-310-0000

Hours of operation are 8:15 a.m. to 4:30 p.m. Voice messages left after 4:30 p.m. will be answered the next business day.

In situations where a company has just amalgamated or purchased another company, the general rule is to call the team that is responsible for the "Supra" business associate, or Royalty payer. Below are some guidelines for clients who are unsure which Client Services Team to call regarding their questions.

1. **Amalgamation/consolidation** - Call the team responsible for the "Supra" business associate (Royalty Payer).
   i.e. ABC Oil and Gas amalgamates with Zed Exploration and Zed is the amalgamator (royalty payer). When calling Client Services regarding business for ABC Oil and Gas, you would call Team 4 (Q-Z) (780-644-1204) because Zed Exploration is now the Supra business associate and royalty payer. This rule would apply even if you were calling regarding business that is prior to the acquisition or amalgamation.

2. **Asset Purchase** - Call the team responsible for your company.
   i.e. 123 Gas purchases the assets of TSP Exploration, but not the company. When calling Client Services regarding business for 123 Gas, you would call Team 1 (# Co., A, B, & L) (780-644-1201) because you have only purchased assets.

3. **Consultants/service providers** - If you have a contract to provide production accounting services to a company, call the team responsible for your client's company.
   i.e. Paul Snow Consulting Services enters into a contract with Duckback Oil and Gas and Olive Oil and Gas. Paul Snow would contact Team 2 (C-G) (780-644-1202) to discuss Duckback Oil business and Team 3 (H-P excluding L) (780-644-1203) to discuss Olive Oil and Gas business. At the time the contract is signed, Paul Snow would have had each company notify the appropriate team that he was authorized to access information for their company.

Reference Prices and Valuation Allowances Calculation Information

Gas Royalty Valuation and Markets
300, 801 – 6 Avenue SW
Calgary, Alberta T2P 3W2
Telephone: 403-297-5514
Fax: 403-297-5400

Deen Khan
Director, Gas Royalty Operations
Royalty Operations

Attachments

2010 GAS AND ISC PRICES

MONTH	Gas Reference Price ($/GJ)	Methane ISC Reference Price ($/GJ)	Methane ISC Par Price ($/GJ)	Ethane ISC Reference Price ($/GJ)	Propane ISC Reference Price ($/GJ)	Butane ISC Reference Price ($/GJ)	Pentanes plus ISC Reference Price ($/GJ)
JAN	4.88	4.85	4.85	5.19	5.32	5.35	5.37
FEB	4.68	4.61	4.61	5.04	5.18	5.22	5.25
MAR	4.05	4.02	4.02	4.28	4.37	4.40	4.43
APR	3.26	3.22	3.22	3.60	3.71	3.73	3.75
MAY	3.37	3.29	3.29	3.73	3.85	3.88	3.90
JUN	3.49	3.46	3.46	3.78	3.88	3.92	3.96
JUL	3.42	3.40	3.40	3.77	3.82	3.85	3.88
AUG	3.25	3.24	3.24	3.77	3.83	3.85	3.88
SEPT	3.14	3.12	3.12	3.47	3.62	3.66	3.70
OCT							
NOV							
DEC							

DETAIL OF THE SEPTEMBER 2010 GAS AND ISC REFERENCE PRICES						
	Gas	Methane	C2-IC	C3-IC	C4-IC	C5-IC
Weighted Average Price of Alberta	3.272	3.251	3.407	3.470	3.481	3.491
Deductions: Intra – Alberta Transportation	0.309	0.328	0.187	0.132	0.102	0.077
Marketing Allowance	0.019	0.019	0.019	0.019	0.019	0.019
Price Before Pipeline Factor	2.944	2.904	3.201	3.319	3.360	3.395
Pipeline Fuel/Loss Factor	0.992	0.992	0.992	0.992	0.992	0.992
Price before Special Adjustment	2.921	2.881	3.176	3.293	3.333	3.368
Special Adjustment	0.000	0.000	0.000	0.000	0.000	0.000
Price before 2% amendment limitation or rounding	2.921	2.881	3.176	3.293	3.333	3.368
Amendments: Carry forward (from previous RP month	0.000	0.001	0.168	0.613	0.564	0.563
Prior Period Amendment Adjustment (current RP mon	0.220	0.242	0.126	0.033	0.013	-0.002
Calculated RP after Amendments	3.141	3.124	3.470	3.939	3.910	3.929
September 2010 Reference Price	**3.14**	**3.12**	**3.47**	**3.62**	**3.66**	**3.70**
Difference = value carried forward to next RP month	0.001	0.004	0.000	0.319	0.250	0.229
Adjusted IATD (before Prior Period Amendments)		0.326	0.186	0.131	0.101	0.076
Prior period Amendments (IATD and Pipeline Fuel Loss)		0.000	0.000	0.000	0.000	0.000
Adjusted IATD (after Prior Period Amendments)		0.326	0.186	0.131	0.101	0.076

2010
NATURAL GAS LIQUIDS PRICES

MONTH	Ethane Reference Price ($/GJ)	Ethane Par Price ($/GJ)	Propane Reference Price ($/m3)	Propane Floor Price ($/m3)	Butane Reference Price ($/m3)	Butane Floor Price ($/m3)	Pentanes plus Reference Price ($/m3)	Pentanes plus Par Price ($/m3)	Sulphur Default Price ($ per tonne)
JAN	5.19	5.19	365.10	304.14	462.20	362.63	535.03	512.98	15.84
FEB	5.04	5.04	350.66	310.59	440.83	328.69	552.62	541.33	38.58
MAR	4.28	4.28	271.19	243.48	437.36	299.13	568.06	554.48	49.30
APR	3.60	3.60	269.23	242.05	428.49	308.22	583.58	574.41	69.93
MAY	3.73	3.73	256.46	237.89	387.98	293.51	524.21	506.81	52.32
JUN	3.78	3.78	238.47	218.81	400.01	293.50	492.95	476.28	65.38
JUL	3.77	3.77	228.03	208.49	395.18	285.56	491.27	475.35	11.73
AUG	3.77	3.77	255.89	232.96	421.39	301.12	491.78	474.07	24.18
SEPT	3.47	3.47	274.54	246.36	424.19	320.36	485.15	468.15	35.74
OCT									
NOV									
DEC									

ANNUAL SULPHUR DEFAULT PRICE

2005	2006	2007	2008	2009
$33.97	$18.89	$32.88	$297.39	$6.35

2010

NGL TRANSPORTATION ALLOWANCE AND DEDUCTIONS

MONTH	PENTANES PLUS (a)				PROPANE AND BUTANE (b)				PENTANES PLUS, PROPANE & BUTANE (c)				FRAC. ALLOW. (per m3)
	REGION				REGION				REGION				
	1	2	3	4	1	2	3	4	1	2	3	4	
JAN	19.35	26.76	10.13	25.18	57.07	19.16	3.92	-10.19	57.95	52.54	63.03	51.40	17.25
FEB	8.52	17.16	-6.32	17.46	51.39	24.76	61.89	-8.43	51.58	51.62	55.86	45.56	17.25
MAR	10.32	18.62	1.65	17.28	51.24	32.88	15.96	5.15	59.67	47.42	53.64	47.86	17.25
APR	8.28	9.64	7.49	14.86	28.22	18.05	23.93	23.68	31.98	31.69	42.44	29.77	17.25
MAY	15.74	24.44	5.69	13.53	24.26	14.77	16.30	24.94	28.14	28.83	32.16	29.88	17.25
JUN	10.87	25.23	-9.35	25.61	32.46	21.34	27.66	27.22	39.71	41.09	41.95	39.68	17.25
JUL	11.97	22.28	13.61	14.89	34.82	29.00	32.30	32.30	38.38	49.95	39.07	37.72	17.25
AUG	8.73	33.74	5.32	20.73	31.69	30.75	31.29	31.29	47.22	53.10	62.21	47.34	17.25
SEPT	10.07	24.67	-21.30	21.67	47.88	27.78	36.84	39.20	49.60	52.51	56.41	44.66	17.25
OCT													
NOV													
DEC													

(a) Pentanes Plus obtained as a specification gas product,
(b) Propane and Butane obtained as specification products, and
(c) Pentanes Plus, Propane and Butane contained in a natural gas liquids mix.

Note: For details on "Prior Period Amendment Effects", see Attachment 2A.

PRIOR PERIOD AMENDMENT EFFECTS				
NGL REFERENCE PRICES	SEPTEMBER 2010			
	Propane	*Butanes*	*Pentanes*	
Price before amendments	274.539500	424.194553	485.150690	
Opening Rollover (from prior business mth)	-0.000119	-0.002532	-0.004311	
Prior Period Amendment Adj. (NGL-100)	0.000000	0.000000	0.000000	
Published Reference Price	**274.54**	**424.19**	**485.15**	

TRANSPORTATION ALLOWANCES	SEPTEMBER 2010											
	Pentanes Plus				Propane and Butane				Pentanes Plus, Propane & Butane			
AMENDMENTS	Region 1	Region 2	Region 3	Region 4	Region 1	Region 2	Region 3	Region 4	Region 1	Region 2	Region 3	Region 4
Opening Rollover (from prior business mth)	0.004142	0.000699	0.002300	0.001307	0.004722	-0.003995	0.000998	-0.002316	-0.004773	0.002985	-0.003031	0.003599
Prior Period Amendment Adj. (NGL-100)	0.000000	0.000000	-45.001860	0.000000	0.000000	0.000000	-2.366796	0.000000	-0.126431	0.000000	0.103126	-0.021963
Total Amendment Effect	0.004142	0.000699	-44.999560	0.001307	0.004722	-0.003995	-2.365798	-0.002316	-0.131204	0.002985	0.100095	-0.018364
Calculated Transp. Differential	10.067360	24.671163	23.701162	21.671719	47.878444	27.784245	39.204723	39.204723	49.730497	52.502700	56.307403	44.678393
Calculated Transp. Differential after Total Amendments	10.071502	24.671862	-21.298398	21.673026	47.883166	27.780250	36.838925	39.202407	49.599293	52.505685	56.407498	44.660029
Published Transportation Allowance	**10.07**	**24.67**	**-21.30**	**21.67**	**47.88**	**27.78**	**36.84**	**39.20**	**49.60**	**52.51**	**56.41**	**44.66**

Effective the January 2009 production period, the royalty rates for **methane** and **ethane** will be calculated based on a new royalty formula. The new royalty formula consists of the sum of a price component and a quantity component. The new royalty rates will range from 5% to 50%. **Propane** and **butanes** will have fixed royalty rates of 30%, whereas **pentanes plus** will have a fixed royalty rate of 40%.

The price component of the new royalty formula royalty rate for methane and ethane is determined by the monthly methane or ethane par price (PP)

Price ($/GJ)	r_p
PP ≤ 7.00	(PP – 4.50) * 0.0450
7.00 < PP ≤ 11.00	(PP – 7.00) * 0.0300 + 0.1125
PP > 11.00	(PP – 11.00) * 0.0100 + 0.2325
Maximum	30%
Minimum	Can be negative (-20.25% if PP=0)

The par price is a provincial weighted price determined by the department and published in the Information Letter for each production month. Determination of the par price has not changed under the Alberta Royalty Framework.

The quantity component of the new royalty formula royalty rate for methane and ethane is based on the average daily production (ADP) of the well event. The quantity component is adjusted for either the depth of the well event and/or the acid gas content of the well event.

Quantity ($10^3m^3/d$)	r_q
ADP≤ (6 * DF)	[ADP – (4 * DF)] * (0.0500/DF)
(6 * DF) < ADP ≤ (11* DF)	[ADP – (6 * DF)] * (0.0300/DF) + 0.1000
ADP > (11* DF)	[ADP – (11 * DF)] * (0.0100/DF) + 0.2500
Maximum	30%
Minimum	Can be negative

The ADP for a well event is the total raw gas production in thousand cubic metres (10^3m^3) for the month divided by the total hours of production in that month multiplied by 24. The ADP formula is as follows:

$$ADP = \frac{\text{Total raw gas production}}{\text{Total hours of production}} \times 24$$

Acid Gas Factor (AGF) is a factor that adjusts the ADP of a well event if that well event is producing high amounts of acid gas, that is, if the combined concentration of hydrogen sulphide (H2S) and carbon dioxide (CO_2) is greater than 3% and less than or equal to 25%. If a well event has an acid gas content of less than or equal to 3%, then the AGF of the well event will default to 1.00. If a well event has acid gas content greater than 25% then the AGF has a minimum value of 0.78.

The AGF is determined based on the following formula:

$$AGF = [1.03 - (H_2S\% + CO_2\%)]$$

The ADP is adjusted by multiplying the ADP by the AGF, that is:

$$\text{Adjusted ADP} = ADP * AGF$$

The acid gas content of a well event, used by the department for the determination of the AGF, will be according to the records of the ERCB.

A depth factor (DF) is required for all well events, and is calculated based on the measured depth (MD) according to the records of the ERCB for that well event. Information on the MD, of a well event, can be found on the Petroleum Registry of Alberta (PRA) in the 'Infrastructure' section.

The DF is used in the determination of the quantity component (r_q) of the royalty rate; it adjusts the quantity component royalty formula for measured depths that exceed 2000 metres. The DF for a well event is determined based on the following formula:

$$DF = \left[\frac{MD}{2000}\right]^2$$

A well event with a MD greater than 2,000 metres will receive a royalty adjustment based on production from the well event. A well event without a reported MD or with MD less than or equal to 2,000 metres will have a DF of 1.00. The DF is capped at 4.00 for well events with MD greater than or equal to 4,000 metres.

If the MD is

$$\begin{cases} \leq 2{,}000 \text{ metres, then the DF} = 1.00 \\ > 2{,}000 \text{ metres and } < 4{,}000 \text{ metres, then DF} = \left[\frac{MD}{2000}\right]^2 \\ \geq 4{,}000 \text{ metres, then the DF} = 4.00 \end{cases}$$

Business Rules

Gas and In-stream Component (ISC) Reference Prices

Simplified Netback Model using NOVA Inventory Transfer (NIT) Purchase Prices - Effective January 2011 Production Month

1. Effective with January 2011 production month, the mechanism for calculating the Gas Reference Price (GRP) will change from a total dispositions netback model to a simplified Alberta netback model. The new calculation will use an average purchase price at NOVA Inventory Transfer (NIT) on the NOVA Gas Transmission Limited pipeline (NGTL), as a proxy for all Alberta gas sales. The Alberta Market Price (AMP), a new index on the Natural Gas Exchange Inc. (NGX), will be used as a proxy for the average purchase price at NIT.

2. Same Royalty Variables for Gas and ISCs - The Department of Energy will continue to publish a provincial Gas Reference Price and a provincial Reference Price for each ISC. The price used to value residue natural gas at the exit of the gas plant (royalty valuation point) will continue to be the Net Gas Reference Price. The Net Gas Reference Price at a facility is the ISC weighted average of each ISC (C1, C2, C3, C4, C5+) Reference Price minus a royalty calculation point specific gas transportation allowance TA (Refer to Appendix A – Detailed Business Rules for Transportation Allowance).

3. Methane ISC (C1-ISC) Reference Price is determined to be the same as the GRP.

4. The reference price for ethane ISC (C2-ISC) and recovered ethane is determined to be the same as the GRP until there is an open market for recovered ethane at Edmonton, with readily available ethane market prices.

5. The reference prices for propane ISC (C3-ISC), butanes ISC (C4-ISC) and pentanes plus ISC (C5+ISC) are determined to be the same as the GRP until otherwise changed. This temporary valuation process is expected to change January 2012 Production Month following consultation with industry.

6. Effects of amendments to prior months resulting from errors or omissions are carried forward into the current month's GRP or ISC RPs, up to a maximum of 2 per cent of the current month's GRP or ISC RPs. This mechanism will adjust a future month's GRP/ISC RPs for amendment effects related to the old Gas/ISC Reference Prices system, and for amendment effects (expected to be rare) related to the new Gas/ISC Reference Prices system. Amendment effects for ISC Reference Prices for pre-January 2011 could result in ISC Reference Prices that may be different from the GRP for the production months of January 2011 to April 2011. For May 2011 and

future production months, ISC reference prices are not expected to be different from the GRP due to prior period amendments.

NEW Gas Reference Price Calculation (GRP)

1. The GRP = ((AMP – IATD)* Pipeline Fuel/Loss Factor)+/- Prior Period Amendments

   a. AMP is the Alberta Market Price calculated by NGX, which is an average of NGX purchase prices for gas delivered in a month at Nova Inventory Transfer (NIT) on the NOVA Gas Transmission Limited pipeline (NGTL).

   b. IATD is the Intra-Alberta Transportation Deduction, which is an allowance calculated monthly for transporting gas from receipt locations on the NGTL system to NIT. The calculation based on current transportation tolls is as follows:
      - use the average firm service receipt rate on NGTL in $\$/10^3m^3$ in effect for the month (currently the average of three year firm service receipt rates on NGTL),
      - divide by the average number of days in a month (30.417), and
      - divide again by the average $GJ/10^3m^3$ of all NGTL receipt meter stations that received gas in that month (July 2010 is 39.3).

   c. Pipeline Fuel/Loss Factor is a notional allowance for pipeline fuel/loss on NGTL for transporting gas from receipt locations on the NGTL system to NIT. Pipeline Fuel/Loss Factor is calculated by subtracting the monthly fuel/loss percentage on NGTL (from TCPL's website) from "1".

   d. Prior Period Amendments are the effects of changes to previous GRPs

Appendix A

Detailed Business Rules for Transportation Allowance Meter Station Factors

1. The Transportation Allowance (TA) is a royalty calculation point specific gas transportation allowance (similar process as pre-January 2011). The TA is zero for a royalty calculation point that is not connected to the NGTL pipeline system. The amount of the TA for a royalty calculation point connected to a NGTL meter station will approximate the difference between the NGTL firm service rate for that meter station and the NGTL system average Transportation Allowance (IATD) used in the calculation of the GRP.

2. TA = (RTF – 1) D
   - TA is the Transportation Allowance for gas at a royalty calculation point.
   - RTF is the Royalty Trigger Factor at a royalty calculation point and is calculated as the disposition weighted average of receipt meter station factors for gas delivered to each NGTL receipt meter station from the royalty calculation point in a month.
   - If a royalty calculation point is connected to one or more NGTL meter stations and to a non-NGTL meter station, a simple average of the connected NGTL meter station factors shall apply to dispositions to the non-NGTL meter stations.
   - For gas dispositions at a royalty calculation point not connected to a NGTL receipt meter station, the RTF is "1".
   - D is the Adjusted Intra-Alberta Transportation deduction at a royalty calculation point and is calculated as the ISC weighted average of prescribed adjusted intra-Alberta transportation deductions for each ISC.

3. The Adjusted Intra-Alberta Transportation deduction (AIATD) for each ISC will be calculated using the IATD in the calculation of the GRP, multiplied by the Pipeline Fuel/Loss Factor.

4. A meter station factor is calculated for a NGTL meter station by dividing the NGTL base rate for firm service receipts in $\$/10^3m^3$ (currently three (3) year rate), by the average firm service receipt rate on NGTL (currently average of three (3) year firm service receipt rates). Meter station factors will be calculated by March 15, effective for the January production month using the rates in effect for the January production month. Also calculated by March 15 are retroactive revisions to meter station factors due to new meter stations, new connections to old meter stations, or a change in a specific NGTL meter station rate. There will be no revisions to meter station factors as a result of NGTL general system rate changes, since meter station factors before and after the rate changes would not likely be materially different.